



THE STATE OF UTAH
OFFICE OF STATE ENGINEER
SALT LAKE CITY

ED. H. WATSON
STATE ENGINEER

May 27, 1943

RE: MUDDY RIVER DISTRIBUTION - EMERY AND ROCHESTER CANALS

Memorandum for Office Study Only, by L. C. MONSON

On May 22, 1943, the writer, accompanied by Mr. Cliff Snow of Ferron, Utah, and Mr. DeLos Olson, President of the Rochester Irrigation Company, and the water master of the same irrigation company, went to the head of Emery and Rochester canals. A measurement was made of the total flow of the river showing 54.23 sec. ft. All of this water was being diverted into the Emery Canal. The Rochester Canal obtains its water through a diversion from the Emery Canal and is entitled to $1/9$ of the stream when the total flow is less than 88 sec. ft. The measuring device consists of a rectangular flume about 30 ft. long and 12 ft. wide, across the lower end of which planks have been placed forming a weir. Below the weir, another plank has been placed at right angles to the weir blade 16" out from the side of the flume. This is $1/9$ of the length of the weir and if the divider was properly constructed, this would possibly divide the water fairly accurately. However, the velocity of approach over the weir is too great and is not uniform across the entire width of the weir. The measurement of the water through the divider to the Rochester Canal showed they were receiving 4.52 sec. ft. This canal should have received 6.03 sec. ft. At another diversion downstream from the weir, additional water is furnished the Rochester Canal. This additional water is purchased by the Rochester Irrigation Company. Emery Canal had allowed 1.28 sec. ft. of water to flow in this last diversion in addition to the amount purchased to make up for the deficiency in the divider. The Rochester Canal still was receiving .23 sec. ft. too little water.

It was recommended to the parties present that the dividing weir be reconstructed and that 12 ft. of Cippoletti weir be installed and that when constructed, care should be taken to provide sufficient pool above the weir so that the velocity of approach would be cut to a minimum, and that a sluice gate be built in the structure to take care of gravel and silt.

LCM/pcr

L. C. M.